A rubber composition usable for the manufacture of tires, based on at least one diene elastomer, a reinforcing inorganic filler and a coupling agent providing the bond between the inorganic filler and the elastomer, wherein said inorganic filler comprises a silicon carbide having the following characteristics:

(a) a BET specific surface area of between 20 and 200 m²/g;

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(b) an average particle size (by mass), d_W, of between 10 and 350 nm.

Tires or semi-finished products for tires such as treads comprising said rubber composition.